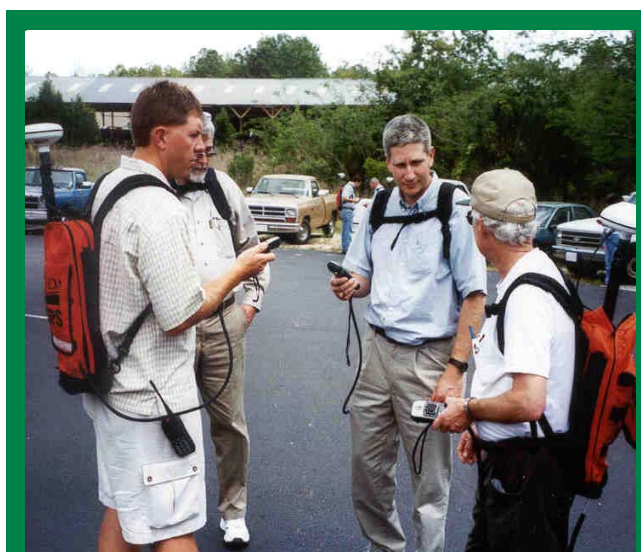




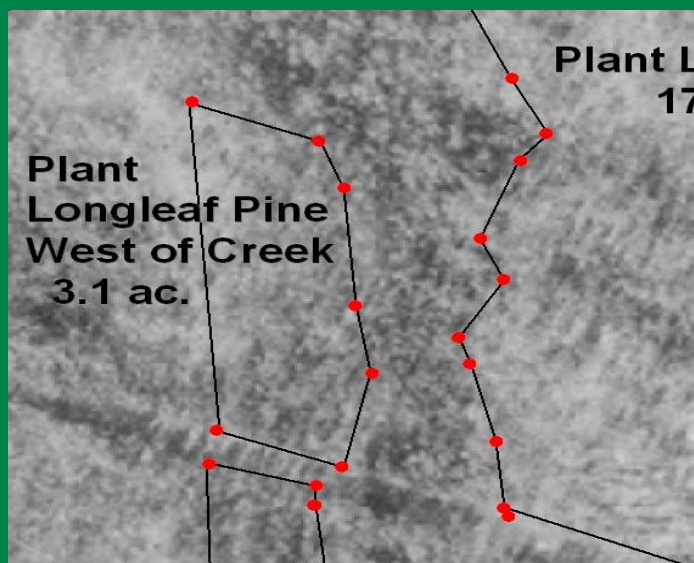
New GPS Technology Coming To Field

By Steve Musser, Resource Conservationist, Auburn, AL

NRCS field offices in Alabama will be receiving new GPS (Global Positioning Satellite) units for conservation planning and practice certification. The new units combine the use of a Map 76 Garmin unit, an external antennae booster, a beacon receiver, and a battery pack all in a neat USDA orange backpack. This technology combines the Garmin Map 76 reading of satellites with a ground-based signal received from an inland ground-based coast guard signal called



(l-r) Jesse Hall, Mike Reynolds, Tracy Cole, and Randy Martin use the new GPS units.



A GPS unit was used to identify the perimeter of a forest-type field for conservation planning.

DGPS (Differential GPS). This DGPS signal gives a correction on the spot and improves accuracy.

The units and training are being rolled out by Alabama NRCS team resource engineers with assistance from team resource conservationists. Many employees have grasped the new technology and are already using it in planning and certification.

Calendar of Events

- July 13-14** - Conservation Practices & Research Committee Mid-Year Meeting, Clanton, AL
- Aug** - T-Square, Erosion & Sediment Control Training (11th Mobile, 12th Montgomery, 18th Huntsville, 19th Birmingham)
- Aug 16** - Interagency Waste Management Team Meeting, Auburn, AL
- Aug 24-25** - AL Engineering Team Meeting, Moulton, AL
- Sept** - Erosion & Sediment Control Field Days (2nd Huntsville, 9th Birmingham, 16th Prattville, 23rd Enterprise, 30th Fairhope)
- Sept 8-10** - Alabama Water Resources Conference, Orange Beach, AL
- Oct 19-20** - Alabama Grazing School, Marion Junction, AL
- Oct 19-21** - Sunbelt Ag Expo, Moultrie, GA
- Oct 28-29** - Landowners & TREASURE Forest Conf., Tuscaloosa, AL
- Nov 8-9** - Butler/Cunningham Conf., Montgomery, AL
- Nov 29-Dec 3** - Eng. Software Training, Auburn, AL
- Feb 8-10, 2005** - Surveying 101 Training, Auburn, AL
- Mar 1-4, 2005** - Pond 101 Training, Auburn, AL

For more information, contact the NRCS State Office at 334-887-4535.

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Enon-Sehoy Plantations Use GIS To Manage Their Land

by Julie A. Best, Public Affairs Specialist, NRCS, Auburn, AL

The Lanier family owns Enon and Sehoy Plantations near Hurtsboro, Alabama. The size of the two adjoining properties is about 26,000 acres. Enon Plantation, one of the south's most prestigious hunting preserves, offers true plantation style bobwhite quail hunting at its finest. Enon's over 10,000 acres have been intensively managed for the past 11 years in an effort to ensure a quality hunt.

John Stivers, the forest consultant who works with the Lanier family, is adamant that the plantations are managed primarily for quail not for timber. According to Stivers, "We're not going for any given rotation strategy. We cut as needed and let the stands be uneven until there is about a three-acre hole,

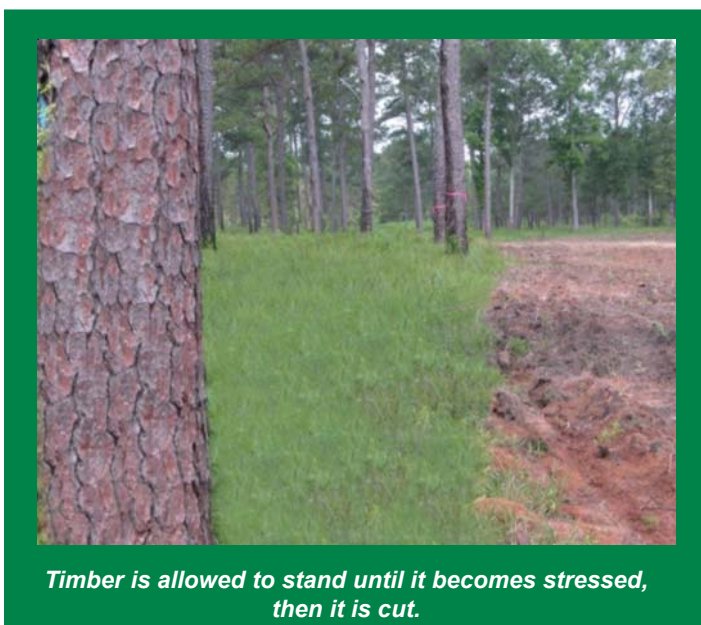
then we cut." This is a non-traditional concept. "We're using a geographic information system [GIS] to build a history of what has been done on the fields," says Stivers. They are using the ArcView format. He explained that GIS combined with the global positioning system (GPS) have been real assets. These technologies enable them to be very precise with their management. Stivers explained that the land management calls for a two-year burning cycle. Using GIS data, the land is displayed on a grid. After installing extensive fire breaks, areas are burned in a checker board pattern. "Our goal is to be able to stand on a ridge and see three or four quail brood fields. This ensures that the quail have adequate cover," says Stivers.



The Lanier family believes in and practices good conservation. They have utilized the Environmental Quality Incentives Program (EQIP) and Wildlife Incentive Habitat Program (WHIP) for restoration of the longleaf ecosystem habitat and bobwhite quail habitat. Sehoy is home to approximately 400 plant species, excellent bobwhite quail, whitetail deer, and turkey populations, Backman's sparrow, common ground dove, the fox squirrel and other species whose numbers are declining in the Southeast. Stivers says, "We want to do everything right, so that if someone copies us, we will be proud."

The Lanier family has a right to be proud of their

conservation efforts. Cam Lanier, III, has just been named the Conservationist of the Year by the Alabama Wildlife Federation. The Alabama Wildlife Federation's Governor's Conservation Achievement Awards are the most prestigious conservation awards in the state.



Innovative Streambank Stabilization

By Shane King, Ag Engineer, Oxford, AL

Stream bank protection is important to many land-owners as well as conservationists. Armoring banks with rip-rap is a simple solution for streambank stabilization, but this method doesn't provide habitat for aquatic life or the aesthetics desired for natural channels. Alternative solutions for streambank stabilization such as root wads or live post planting in combination with rip-rap are being used more frequently to achieve a more natural looking stabilized bank. NRCS has successfully used these new bioengineering or vegetated treatments on projects in the Choccolocco Creek Watershed in east central Alabama and in the Paint Rock River Watershed in northeast Alabama.

What are Root Wads?

Root wads are used to stabilize the toe of the

stream banks experiencing excessive erosion. They are hardwood logs with minimum diameters of 16" and lengths from 8' to 15' from the top of the root mass to the tip of the stem. All limbs are removed from the root wads before installation.

To install root wads, a foundation of riprap 1 to 2 feet high is installed, and trenched into the bottom of the channel to provide support for the logs. Trenches are then excavated into the existing channel bank and the root wads are laid, side by side with root masses adjacent to one another, into the trenches with the root mass end of the stem resting on the riprap foundation. The root mass extends over the riprap with the bottom half of the mass below normal water level. The area behind the root mass is filled with gravel and the trenches are backfilled with soil and

compacted. An anchor log is then laid parallel with the stream flow along the top of the root wads and cabled to the root wads to provide stability.

Compacted soil is then placed from the top of the existing bank to the top of the root wads forming a stable slope that is then vegetated.

When the root wads are properly installed, fish rearing and spawning habitats will improve and the bank will be protected from the soil erosion during high flows.

What Are Live Post?

Live post planting is when 2 to 5 inch diameter dormant trees 6 to 10 feet long are stripped of limbs and leaves and placed in a specified pattern along a section of streambank to provide vegetative protection against erosion. The dormant trees sprout and grow the next growing season. Species may include Black Willow, Sycamore, and Box Elder.

Typically the bank is shaped to a stable slope (2:1 or flatter) before the live posts are placed. In some installations the toe of the bank is armored with riprap before placing live posts. The critical element in the installation is to ensure that the bottom of the posts extend 2 feet below the water elevation at low flow in the stream (typically October).



Live posts planted on Choccolocco Creek in Calhoun County.

Posts are placed in a uniform pattern in rows running parallel to the stream. Rows are spaced 3 to 4 feet apart and posts are spaced 3 to 4 feet apart along the row. Posts should only be harvested and planted during the dormant season, typically November to February. After the posts are planted, the slope is vegetated and covered with an erosion control blanket to provide immediate cover until the posts begin to grow.

When planted properly, these trees will grow roots to control erosion and create shade for the aquatic environment. Dissipation of large flows during flooding is an added benefit.

For more information on root wads and live post plantings, check the following website: <http://www.info.usda.gov/CED/ftp/CED/EFH-Ch16.pdf>



Root wads installed on streambank.

Changes in Pressure Treated Wood

By Bill Prince, NRCS Environmental Engineer, Auburn, AL

Wood is an excellent building material based on availability, ease of use, and strength. However, as a natural product it is subject to dry rot, fungi, molds, termites, and other pests. To overcome these negative effects in long-term applications, chemical wood preservatives have been used since the late 1800's. Chromated copper arsenate (CCA) has been used as a chemical preservative since the 1940's, and has been the treatment of choice for residential and agricultural uses since the 1970's. Recent concerns about the possible effects of the arsenic (a known carcinogen) in CCA treated wood on humans and animals have resulted in significant changes in the pressure treated wood industry. These changes came into effect on January 1, 2004.

CCA Precautions. The toxicity of the CCA treatment is well known. While touching and handling CCA treated wood is not dangerous, there is a danger in food contact, sawing, and burning the wood. CCA treated wood should not be used for cutting boards, counter tops, bee hives, compost, mulch, or for any structure or container for human or animal food. When sawing CCA treated wood, protective clothing should be worn such as gloves, goggles, and dust masks; the sawdust should be collected for disposal (and not used as mulch in the garden!); hands should be washed before eating; and clothes should be washed separately from other clothes. CCA treated wood should not be burned. According to one government study the smoke is not toxic, but the arsenic is concentrated in the ashes.

Concerns and Changes. One of the main concerns is the amount of CCA treated wood being used in residential settings and

playground equipment. Children's natural curiosity sometimes lead them to gnaw and chew on objects. This could lead to ingestion of wood particles or food that come in contact with

treated wood. Studies have shown there is little leaching of chemicals to the soil, air, or water; however, the ingestion of treated wood particles and food contamination are a cause for concern. For these reasons, the Environmental Protection Agency (EPA) announced a voluntary decision by pesticide registrants to not use CCA for residential wood treatment after December 31, 2003. While the CCA treatment is still allowed for nonresidential uses such as marine pilings, telephone poles, and certain agricultural uses (fence post and building timbers), most local lumber yards no longer carry CCA treated lumber.

Alternatives. There is a new generation of chemical wood preservatives that use organic copper-based formulas. Two of the more common types are alkaline copper quaternary (ACQ) and copper azole (CBA), with ACQ being more available at present. They preserve wood as well as the CCA treatment, but without the precautions to humans and animals. However, they are more expensive, and for this reason you may find wood treated to different preservative retention rates at your local lumber yard. The preservative retention level of ACQ treated wood should be selected based on the intended purpose of the wood. Recommended retention levels of ACQ are 0.25 lb/cf for use above ground, 0.4 lb/cf for use with ground contact, and 0.6 lb/cf for use as a critical structural member in ground contact.

Also, these new treatments are more corrosive to metal fasteners than the CCA treatment. Fasteners are now recommended to be hot-dipped galvanized or stainless steel. Aluminum is not recommended to be in direct contact with ACQ treated wood.

Safety of Old Wood. What about old structures (playground equipment, picnic tables, handrails, etc.) built with CCA treated wood? The EPA does not suggest removing these from use. A sealant or paint could be applied in sensitive applications, but there is little data about the effectiveness of these coatings to reduce arsenic risk. The old precautions are still safe – be careful with sawdust, avoid food contact (it's OK to serve food on a picnic table with no direct contact, just don't prepare food on one), and wash hands often.

Additional Information. More information on the handling, use, and disposal of CCA treated wood can be found on EPA's website at: www.epa.gov/pesticides/factsheets/chemicals/1file.htm. Information on currently approved wood preservatives can be found on the American Wood-Preservers' Association website at: www.awpa.com.



Helping Farmers Meet Environmental Regulations

By Walker Williams, Soil Conservationist, Rainsville, AL

Recent state regulations restrict the application of poultry litter and other animal by-products in north Alabama during the winter months. Poultry producers must store litter removed during this period for up to 3 months before spreading on fields, unless they have an actively growing crop, such as a wheat, oats or rye. Using temporary storage methods for extended periods is aggravating, and in many cases, if the temporary covers are damaged, it is ineffective in protecting the environment.

Dry stack storage barns are safe and easily accessible to store litter for the required period or until the producer is ready to spread litter on their land. Dry stacks are also used throughout the state to split the applications of litter on crops and pasture at times when the plants can better make use of the nutrients.

Leon and Dicie Ashley of Fyffe, Alabama, say, "We use our dry stack to store cake clean-out during the winter, and we also store part of the spring clean-out to spread on the pastures later in the summer. We farm and graze over 400 acres of land. Chicken litter does not cover all of it, we have to use some commercial fertilizer, but we use the litter as much as possible."

Robert Johnson of Ft. Payne, Alabama, feels his dry stack is an essential part of the poultry operation.

Mrs. Dicie Ashley of DeKalb County discusses her dry stack with NRCS Soil Conservationist Walker Williams.



Johnson says, "Our dry stack is a lot of help to us. We store the cake clean-outs in the winter and spread it in the early spring. We spread part of our spring clean-out on about 100 acres and store the rest to be spread in the mid-summer on pastures."

In both of these cases, the dry stack also contains a composter where part of the litter is used in the composting process. The composted mortality is also spread on their fields as another form of fertilizer



Robert Johnson (r) and DeKalb County NRCS Soil Conservationist Walker Williams discuss storage of litter in this dry stack.

Cogongrass Control Project for Longleaf Pine

By Randy Roach, Partners for Fish and Wildlife Coordinator, FWS, Daphne, AL

Cogongrass is a very aggressive exotic perennial that has been designated as the world's 7th worst weed. It occurs on six continents as far north as Japan and as far south as New Zealand, from elevations near sea level to 8,000 ft.

In open mature stands of longleaf pine, as well as recently established longleaf stands, it can become the dominant understory plant and is a severe problem in maintaining a healthy and diverse longleaf ecosystem.

Dense stands of cogongrass are often depauperate wildlife habitat. Cogongrass out-competes native grasses and forbs important to many species in decline like the gopher tortoise, Eastern indigo snake,

Bachman's sparrow, Henslow's sparrow, and bobwhite quail. In addition, the existence of cogongrass precludes the use of controlled burning in many situations to maintain a diverse longleaf ecosystem because cogongrass generates extreme temperatures when fired and often kills or severely stresses the longleaf overstory. Stress generated from such intense heat can

open the longleaf pine up to disease and insect pests like the southern pine beetle.

This project was started in July 2002 as part of the Fish and Wildlife Service's Longleaf Pine Restoration Initiative.

Cogongrass Invading Longleaf Ecosystem



- 7th Worst Weed in the World
- The Perfect Weed
- Grows in Wide Range of Soils
- Tolerates Drought
- Thrives in Disturbed Sites
- Very Fire Tolerant
- Reproduces sexually and asexually.

Funding for the project was transferred to the Alabama Soil and Water Conservation Committee (SWCC) through a cooperative agreement. The scope of the project was limited to 11 counties

in southwest Alabama including Choctaw, Washington, Mobile, Clarke, Baldwin, Monroe, Escambia, Conecuh, Butler, Covington, and Geneva counties.

Applications were accepted at NRCS offices and a cogongrass control plan was

developed by NRCS personnel. The plan allowed the landowner to treat cogongrass where it occurred in longleaf pine with two fall herbicide applications, i.e., a tank mix of imazapyr (0.5 lbs/acre of active ingredient) and glyphosate (4 lbs/acre of active ingredient). One cost-share payment of \$225/acre is allowed for the two fall treatments. A cap of \$3,000 per landowner was established for the initial sign-up. In 2003, 25 landowners applied for cogongrass cost-share assistance scattered over 5,700 acres of longleaf. The SWCC program to control cogongrass was continued this year; however, final approvals have not been made.

Longleaf Pine Ecosystem



Eradicating Cogongrass In Lee County

By Eddie Jolley, NRCS Conservation Agronomist, Auburn, AL

Cogongrass should soon be eliminated in Lee County, Alabama. Considered to be the world's 7th worst weed, cogongrass has been identified in many parts of Alabama. From the concentrated infestations in southwest Alabama to just a few sites scattered across the state, it is on the move.

The Lee County Soil and Water Conservation District (LCSWCD), working with NRCS personnel, recognized the importance of controlling this pest. They initiated a cogongrass eradication project for Lee County.

Four sites identified in Lee County ranged from less than 0.1 acre to about 1 acre in size. Sites were located on public rights-of-way, small rural homeowners' lawns, and wooded areas.

The LCSWCD brought concerned citizens and specialists together to discuss the project and the potential impacts of controlling or not controlling the weed. All agreed that it was important to control it. After numerous meetings and discussions, all the landowners and government entities agreed to participate in the eradication project.

Dr. Mike Patterson, Auburn University (AU) weed control specialist, who is conducting cogongrass control research in south Alabama, agreed to assist in the project. He and AU agronomy student volunteers initiated glyphosate herbicide applications the fall of 2003. Because of the potential negative impacts of other herbicides to



Cogongrass with mature seedheads.

homeowners, only glyphosate is being used. Although initial results indicate that much of the cogongrass was killed, it is anticipated that some of the rhizomes will grow again. Dr. Patterson anticipates that two or three years of treatments may be needed to completely kill the cogongrass.

Part of the eradication plan includes planting of crimson clover to compete with new seedlings and improve the aesthetics of the treated area. The LCSWCD agreed to purchase the clover for planting on the treated sites. Dr. Patterson and the volunteer students planted the clover.

Recently another small cogongrass site was found on I-85, just west of Auburn. With the help of the State Department of

Transportation, this site is being treated and monitored as well.

The eradication effort is truly a group effort. Landowners, the City of Auburn, Lee County Commission, Alabama State Department of Transportation, Auburn University volunteer students, LCSWCD, NRCS, and Alabama Cooperative Extension System are leading the way in learning how to eradicate cogongrass in Alabama.

This project shows how a cooperative county effort can be successful in eradicating small cogongrass infestations. Perhaps with other counties using this project as an example, cogongrass can be eliminated in much of the state.



Cogongrass has an off-set center midrib.

OrthoMapper and 3-D Mapper Training

By Eddie E. Davis Jr. , North Alabama Regional Soil Survey Office (NARSSO) Soil Scientist

The North Alabama Regional Soil Survey Office (NARSSO) in Huntsville hosted a training session on OrthoMapper and 3D Mapper in April 2004 at the Charles Stone Agriculture Center. The training will further assist soil scientists in field offices as they continue to embrace the theme, "Sharing New Technology Skills for Data Collection and Management of Alabama's Diverse Natural Resources." The training was provided by Ken Lubich, National Soil Survey Digitizing Coordinator, NRCS, Madison, Wisconsin, along with Randy English, Cartographer, National Cartography, and Geographic Center, Ft. Worth, TX.

The OrthoMapper software allows soil scientists to create orthographic photos from unrectified images. Soil map lines can then be captured and saved for use on newer ortho photography. 3-D Mapper software allows soil scientists to analyze slope characteristics and digitize soil lines while viewing landforms 3-dimensionally. The program takes a digital elevation model

(DEM), marries it with an orthophoto of the same area and displays in 3-D.

Currently, Alabama A&M University (AAMU) has an agreement with NRCS to digitize the soil survey layers of Colbert, Lauderdale, and Marion Counties. As a part of the process, overlays of the soil boundaries and aerial photos will be scanned and transferred into Orthomapper for rectification. NRCS personnel at the North Alabama Regional Soil

Survey Office (NARSSO) are also using Orthomapper to rectify 1942 vintage field sheets and capture original field mapping for update. 3-D Mapper is being used to evaluate existing soil surveys and to help further our knowledge about the soils and landscapes in counties where there is no soil survey

Special thanks to MO-15 Leader Charles Love for the essential support and vision, to Ken Lubich and Randy English for

coming to Alabama, to GIS specialist Joe Gardinski for serving as an additional trainer, to the NRCS Field Office personnel for providing the meeting room and material support, and to Rick Zellmer for preparing and hauling 10 lap-top computers from Auburn. You all made this training a success.

To keep up with activities at the North Alabama Regional Soil Survey Office, click on to <http://webspace.aamu.edu/usda-nrcs/>.



Attending were Dr. Web Tadesse AAMU; NRCS soil scientists Chris Ford, John Burns, Stephon Thomas, Eddie Davis, Zamir Libohova, and Doug Clendenon; Charles Love, MO15 Leader; GIS Specialists Rick Zellmer and Joe Gardinski; and Ryan Sisk, USDA-Forest Service forestry technician.

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